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Investigation of Relationship between Aggression and Sociometric Popularity in Adolescents

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Abstract

In this study, it was aimed to determine the linear and curvilinear relationships between adolescent aggression and sociometric popularity. 524 adolescents randomly selected from 20 elementary schools in Nigde city center formed the study group. The participants were from 8th grade in 20 different classrooms. The research data were collected by applying Aggression Scale and doing Sociometric Measurement. Sociometric Measurement was done by asking the students to write the names of three of their friends from their classroom on preprepared forms that (i) "they most want to spend time with" (ii) "they least want to spend time with". Since the aggression and sociometric popularity scores showed differences based on gender, analyses were performed separately for girls and boys. Because there was not a meaningful relationship between girls' sociometric popularity scores and aggression (in five types) scores, regression analysis was not conducted with the data obtained from female adolescents. For boys, linear and quadratic regression analysis was carried out to explain the relationships between their sociometric popularity and aggression. The results showed that the least preferred and the most preferred boys' aggression (except anger) levels were high.

Kev Words

Aggression, Sociometric Popularity, Adolescents, Linear Trends, Curvelinear Trends.

Aggression is defined as behaviors intended to harm (Dodge, Coie, & Lynam, 2006 cited in Kuryluk, Cohen, & Audley-Piotrowski, 2011). Moeller (2001) classifies aggression as physical and verbal aggression and Buss and Perry (1992) classifies it as physical, verbal and indirect aggression. Some researchers (Crick & Grotpeter, 1995; Galen & Underwood, 1997) stated another kind of aggression kind that aims to harm by breaking relationships in ways like gossiping and social exclusion (cited in Moeller, 2001, p. 25). Dodge and Coie (1987) mention two types of aggression: proactive and reactive aggressions.

Adolescent is a period when occur physical, mental, psycho-motor, social and emotional changes and vocational development and includes development tasks that individuals have to achieve (Gander & Gardiner, 2001). It is reported that adolescents are inadequate life skills such as problem-solving, conflict resolution, communication, anger management (Breunlin Cimmarusti, Bryant-Edwards, & Hetherington, 2002; Weir, 2005; Yılmaz, 2004). Therefore, it can be said that adolescents are often faced with various developmental problems during this period and these problems may lead to aggression due to they have not alternative behaviors. There are also views that suggest aggression to be formed from the interaction of individual characteristics like low self-esteem, peer rejection and academic failure and environmental characteristics like poverty, limited social support (Coie et al., 1993; Miller, 1994). Today, the view that aggression occurs as a combination of individual and environmental characteristics is widely accepted.

It is pointed out that the peer relationships are more important during the early stages of adolescence (Douvan & Adelson, 1966 cited in Coleman, 1980, p.

a Yasemin YAVUZER, Ph.D., is currently an assistant professor at the department of educational sciences, guidance and psychological counseling. Her research interests include aggression in adolescent, school violence, conflict, anxiety, stress and creative drama. Correspondence: Ni\u00f3de University, Faculty of Education, Department of Guidance and Psychological Counseling, Ni\u00e4de, Turkey. E-mail: yyavuzer\u00ednide.edu.tr Phone: +90 388 211 2842. 409). While most adolescents have positive and valuable peer relationships, some have less satisfactory peer relationships. One of the reasons why researchers interested in peer relationships focus on popularity is to understand what kind of a link between the negative behaviors like aggression and risky behaviors and high status within the peer group is there. These researchers mention two types of popularity in their studies: sociometric popularity and perceived popularity (Borch, Hyde, & Cillessen, 2011; Cillessen & Rose, 2005; Kuryluk et al., 2011; Walcott, Upton, Bolen, & Brown, 2008). Sociometric popularity (SP) is an indicator of peer group's liking derived from evaluations of liking and disliking by peers. Perceived popularity, on the other hand, is calculated by asking the most and the least popular children/ adolescents among their peers and is considered to be the measure of social visibility. In this study, the relationship between SP and aggression is examined. Sociometrically popular teens generally show high levels of positive social behavior and low levels of aggression (Cillessen & Rose). In literature, there are a lot of studies that detected a negative relationship between aggression and SP (Borch et al.; Guerra, Asher, & DeRosier, 2004; Kuryluk et al.; Mundy, 1997; Walcott et al.). Also, it is stated that victims are more rejected than the aggressors (Duncan, 1999, Pulido, Martin-Seoane, & Diaz-Aguado, 2010). Furthermore, Schoot, Vender, Boom, and Brugman (2010) suggested that teens showing anti-social behavior can be in every status group, including the popular group. Aggressive teens are not liked by their peers. On the other hand, aggression is not related with not being liked by their peers all them time. Rejected children / adolescents can be shy as well as aggressive (Cillessen, Ijzendoorn, Lieshout, & Hartup, 1992). In addition, Stormshak, Bierman, Bruschi et al. (1999) found that there is a positive relationship between aggression and SP in classrooms where aggression is considered normal (cited in Kuryluk et al., 2011; Austin & Sciarra, 2012). These findings suggest that aggression may increase in low and high levels of SP. In addition, the research findings point to differences between girls and boys in terms of both aggression and SP (Cillessen & Borch, 2006; French, 1988, 1990; Guerra et al.; Kuryluk et al.). As seen above, there are many studies examining the relationship between aggression and SP. However, in our country the studies in this subject (Demir-Şad, 2007; Yılmaz-Anatca, 2010) are insufficient. Due to all these reasons, in this study it was aimed to determine the linear and curvilinear relationships between adolescent aggression (physical, verbal, anger, hostility and indirect) and SP.

Method

Study Group

524 adolescents randomly selected among 1620 adolescents in 20 elementary schools located in Nigde city center form the study group. The reason for this is that aggressive behaviors occur more frequently in early stages of adolescence (Orpinas, Engquist, Grunbaum, & Parcel, 1995; Şakrak, 1987). The participants are from 8th grade in 20 different classrooms. 257 (49%) of the participants are girls and 267 (51%) of them are boys.

Data Collection Tools

Aggression Scale (AS): Developed by Buss and Perry and updated by Buss and Warren (2000), the Turkish version of the scale titled "Aggression Questionnaire" was prepared by Can (2002). The scale consists of fivepoint Likert responses and 34 items. The highest score that could be received from the scale is 170 and the lowest score is 34. 58 points received from the scale indicates low aggression level, 59-110 points indicates to normal aggression level and 110 or above points indicates to high aggression level (Buss & Warren; Can). The aggression questionnaire is made up of five subscales: Physical aggression, verbal aggression, anger, hostility and indirect aggression. The subscale scores and the total scores are examined in the scale. Kula (2008), Karataş and Gökçekan (2009), Eroğlu (2009), Yavuzer and Üre (2010), Gündoğdu (2010) and Donat-Bacı (2011) used the scale after testing its validity and reliability. In this study, a confirmatory factor analysis (CFA) was conducted. For GFI, CFI, NFI, RFI, IFI and AGFI indexes, acceptable-fit value and best-fit value are considered to be 0.90 and 0.95 respectively (Marsh, Hau, Artelt, Baumert, & Peschar, 2006). As for RMSEA, acceptable-fit value and best-fit value are considered to be 0.08 and 0.05 respectively (Stevens, 2002, p. 433). Fit index values were found to be RMSEA=0.04, NFI=0.92, CFI=0.98, IFI=0.98, RFI=0.91, GFI=0.85 and AGFI=0.84.

Sociometric Measurement: Once certain criteria are taken into account, sociometry means numerically detecting who is approved or rejected by whom within a group (Dökmen, 1988). The students were asked to write the names of three of their friends from their classroom on pre-prepared forms that (i) "they most want to spend time with" (ii) "they least want to spend time with". The class list was given to the students so they would not miss any students that were absent on that specific day. Afterwards, each student's raw scores in the first and second state are converted into z scores according to their own class-

rooms. Then, the sociometric popularity scores were calculated by computing each student's preference scores from the most preferred to the least preferred using the method that was suggested by Coie, Dodge and Coppotelli (1982). The same method was used in studies with elementary school students in Turkey (e. g., Demir & Kaya, 2008; Oral, 2007).

Data Analysis

To determine the relationships between the variables, Pearson Product-Moment Correlational Analysis, to test the effect of gender on aggression Multivariate Analysis of Variance (MANOVA) and to assess the relationship between SP and aggression linear (step 1) and quadratic (step 2) regression analysis were respectively used.

Process

The data were collected from the participants in their own classrooms during the guidance hour in the spring semester of 2012. After brief information about the purpose of the study was given to the participants, first sociometric measurement and then aggression scale were applied to the adolescents who volunteered. The students were informed that their responses would be kept confidential and they were asked to provide sincere answers. Application of the scales took approximately 20-25 minutes.

Results

Examination of the Effect of Gender on Sociometric Popularity and Aggression

The effect of gender on physical aggression ($F_{(1-522)}$ = 16.04, p<.05) and SP ($F_{(1-522)}$ = 7.56, p<.05) scores were meaningful. According to this finding, it can be said that male adolescents' physical aggression scores are higher compared to the girls and female adolescents' SP scores are higher compared to the boys. There was no meaningful difference in the scores of other aspects of aggression, i.e. verbal aggression, anger, hostility, and indirect aggression (p>.05).

Correlation among the Variables

For SP and physical aggression, correlation analysis based on preliminary analysis showing the gender differences was done separately for girls and boys. A negative correlation between male adolescents' SP scores and physical aggression (r= -.23, p<.01), verbal aggression (r= -.15, p<.05), anger (r= -.18, p<.01), hostility (r= -.25, p<.01) and indirect aggression (r=

-.24, p<.01) was found. No correlation between female adolescents' SP scores and aggression was found. For this reason, regression analysis was not done with the female adolescents' data. For the male adolescents, it was found that SP has linear effect on the five types of aggression. For linear effects, b negative indicates that aggression is at a high level when SP is low. In addition, the curvilinear effect of SP on physical, verbal, indirect aggression and hostility was found to be meaningful. It is found that physical aggression, verbal aggression, hostility and indirect aggression levels that are low for curvilinear effects but meaningful statistically increase in SP's higher levels. According to these findings, it increases the low and high physical aggression, verbal aggression, hostility and indirect aggression levels. The anger level increases only when SP is low.

Discussion

This study that aims to determine the linear and curvilinear relationships between adolescent aggression and sociometric popularity, compared to female adolescents male adolescents' physical aggression scores and compared to male adolescents female adolescents' sociometric popularity scores were found to be higher. This finding shows similarities to the previous research findings (e.g., Cillessen & Borch, 2006; French, 1988, 1990; Guerra et al., 2004; Kuryluk et al., 2011). This may be because boys' aggressive behaviors are supported and their aggression is perceived as a sign of masculinity (Atay, 2004: 11; Marangoz, 2004) and also because there are more social sanctions (Borch et al., 2011) for girls' aggressive behaviors. Girls show higher level of positive social behavior and commitment to their peers more than boys (Günaydın & Yöndem, 2007). Therefore, they are perceived as more sincere and supportive by their peers (Kumru, Carlo, & Edwards, 2004). Cillessen and Rose (2005) express that unlike rejected adolescents popular adolescents show more positive social behavior and less aggression in terms of sociometry. Form this point, the girls' low aggression scores and high SP scores are understandable.

In male adolescents, SP has a negative relationship with the five aspects of aggression. On the other hand, there was no meaningful relationship between SP and aggression among female adolescents. Wood, Cowan, and Baker (2002) stated that there is no association between overt aggression and peer rejection for girls and peer rejection may cause often non-compliance among girls. French (1988; 1990) expressed that the girls rejected by their peers experience more anxiety compared to the girls accepted by their peers and rejected boys

display more aggression compared to the boys accepted by their peers. Since there was no meaningful relationship between female adolescents' SP and the five aspects of aggression, regression analysis was not done. For the male adolescents, the results of the regression analysis show that SP has a negative linear effect on physical aggression, verbal aggression, anger, hostility and indirect aggression. In other words, the aggression (five types) levels of the least preferred male adolescents were found to be high. Previous research findings show that adolescents who are liked by their peer groups are more social and the ones who are not liked are more aggressive (Borch et al., 2011; Cillessen & Rose, 2005; Guerra et al., 20004; Kuryluk et al., 2011; Mundy, 1997; Walcott et al., 2008; Yılmaz-Anatca, 2010). In this study, after examining the linear effects, the curvilinear effects were examined and it was found that the aggression (except anger) levels of the most preferred adolescents were high. High SP is an indicator of peer group's liking. It was reported that anger, which forms the emotional components of aggression, doesn't emerge out of a planned activity, but primarily occurs in situations in which an individual experiences frustration, injustice, criticism, or contempt (Balkaya & Şahin 2003; Lohr, Olatunji, Baumester, & Bushman, 2007). That the anger levels of the most preferred adolescents were low is theoretically the anticipated result.

In their study examining the linear and curvilinear relationships between aggression and SP among 7th graders, Walcott et al. (2008) stated that aggression is related to both low and high SP. Even though many aggressors are adolescents who are disliked by their peers, some most preferred adolescents can use aggression for their own like/preferred state without leading to negative results (Carney & Merrell, 2001 cited in Gökler, 2009; Pişkin & Ayas, 2005). Furthermore, it is stated that victims are rejected more than the aggressors (Duncan, 1999; Pulido et al., 2010). Not being preferred by the victims and victims' friends (if they have any) may not have been affect some aggressive adolescents' SP levels because they have their own friends. According to Cillessen and Mayeux (2004), adolescents who are accepted at a high level may use aggression to protect their boundaries in their own groups.

Conclusion and Recommendations

According to the results of this study, the low and high SP scores (except anger) of the male adolescents lead to high aggression. Little or no research has been done on this subject in our country. In future studies, examining the reasons why some adolescents are more popular may shed light to the complex interaction among these structures. In addition, the long-term effects of peer rejection on children/adolescents can be examined during early/middle/late adolescence with longitudinal studies.

Because popularity is sometimes associated with social dominance that is displayed with aggression, some aggressive adolescents may be perceived as popular even if they are disliked. In this study, only the relationship between sociometric popularity and aggression was examined. In future studies, it is believed that addressing the relationship between both SP and perceived popularity and aggression may be more illuminating. The study group of the study is made up of adolescents going to 8th grade in different elementary schools in Nigde city center. Therefore, the results can only be generalized to groups with similar characteristics.

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